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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,667	12/21/2001	Mario Elmen Tremblay	8828	1150
27752	7590	03/10/2004		
THE PROCTER & GAMBLE COMPANY INTELLECTUAL PROPERTY DIVISION WINTON HILL TECHNICAL CENTER - BOX 161 6110 CENTER HILL AVENUE CINCINNATI, OH 45224			EXAMINER NICOLAS, WESLEY A	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/027,667	TREMBLAY ET AL.	
	Examiner	Art Unit	
	Wesley A. Nicolas	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-93 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-93 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/12/02 & 8/15/02</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

3rd Party Submission of Prior Art

A 3rd party submission of prior art was filed in this case on October 24, 2003. However according to 37 C.F.R. 1.99(b)(1), it was not accompanied by the requisite fee. The same 3rd party then re-submitted the prior art with the required fee on December 1, 2003. Although 37 C.F.R. 1.99(e) requires that "[a] submission under this section must be filed within two months from the date of publication of the application (§ 1.215(a)) or prior to the mailing of a notice of allowance (§ 1.311), whichever is earlier", the 3rd party submitted after the two month deadline which was May 6, 2003 (Publication of 2003/0042134 was published on March 6, 2003), and provided a statement of why the submission was not timely.

However, under the totality of the circumstances, the 3rd party submission of prior art will be considered by the Office. No further action by Applicant is necessary.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 24, are 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Herrington et al. (6,261,464).

Claim 1 is rejected because Herrington et al. teach an apparatus for electrolyzing an electrolytic solution, said apparatus comprising:

- (a) a non-barrier electrolytic cell comprising:
 - o (i.) an anode (col. 5, line 54);
 - o (ii.) a cathode, said anode and said cathode defining a passage formed therebetween (cathode at Fig. 1, numeral 106 and passage is between numeral 106 and anode as outer electrode);
 - o (iii.) an inlet port communicating with said passage, said inlet port used to receive a flow of electrolytic solution (for example Fig. 4, numeral 146); and
 - o (iv.) an outlet port communicating with said passage, said outlet port providing an exit for the flow of electrolytic solution having been electrolyzed (for example Fig. 4, numeral 146); and
- (b) a current supply for providing an electrical current from said anode to said cathode, wherein said current supply delivers less than about 5 watts of power, wherein the electrical current electrolyzes the flow of electrolytic solution (Fig. 1, numeral 102).

It should be noted that the specific power of the current supply is a method limitation which does nothing to further define the structure in apparatus claims. The apparatus must merely be capable of operating at the specific operating conditions

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which appears to be the case with the apparatus of Herrington et al. The specific power would have been considered a result effective variable by one having ordinary skill in the art. As such, one having ordinary skill would have routinely optimized the pressure of the chamber to obtain the purification attendant therewith. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 105 USPQ 233.

Claims 2, 24, 29, 30, and 31 are rejected because Herrington et al. teach that the apparatus comprises a body which contains said electrolytic cell and power supply (Fig. 1, numeral 108), a current supply such as a battery or a solar cell (col. 8, lines 1-5); a travel water purification device (*i.e.* "portable"; Abstract); is adapted to remove impurities (Abstract); and is adapted to kill microorganisms (col. 4, lines 18-25).

3. Claims 1, 3, and 5-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Weakly et al. (2002/0157966 A1).

Claim 1 is rejected because Weakly et al. teach an apparatus for electrolyzing an electrolytic solution, said apparatus comprising:

- (a) a non-barrier electrolytic cell comprising:
 - o (i.) an anode (Fig. 1, numerals 20, 30 or 40);
 - o (ii.) a cathode, said anode and said cathode defining a passage formed therebetween (Fig. 1, numerals 20, 30, or 40 with passage indicated by flow arrows 12);

- o (iii.) an inlet port communicating with said passage, said inlet port used to receive a flow of electrolytic solution (Inlet at approximately numeral 18); and
 - o (iv.) an outlet port communicating with said passage, said outlet port providing an exit for the flow of electrolytic solution having been electrolyzed (outlet near numeral 51); and
- (b) a current supply for providing an electrical current from said anode to said cathode, wherein said current supply delivers less than about 5 watts of power, wherein the electrical current electrolyzes the flow of electrolytic solution (Fig. 1, "V").

It should be noted that the specific power of the current supply is a method limitation which does nothing to further define the structure in apparatus claims. The apparatus must merely be capable of operating at the specific operating conditions which appears to be the case with the apparatus of Weakly et al. The specific power would have been considered a result effective variable by one having ordinary skill in the art. As such, one having ordinary skill would have routinely optimized the pressure of the chamber to obtain the purification attendant therewith. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 105 USPQ 233.

Claims 3, and 5-31 are rejected because Weakly et al. teach of a specific filter such as activated carbon (§ 0049) or resin (§ 0035) which can filter out arsenic (§ 0049).

It should be noted that the specific rate or degree of filtration is a method limitation which does nothing to further define the structure in apparatus claims. The

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apparatus must merely be capable of operating at the specific operating conditions which appears to be the case with the apparatus of Weakly et al. The specific filtration properties would have been considered a result effective variable by one having ordinary skill in the art. As such, one having ordinary skill would have routinely optimized the pressure of the chamber to obtain the purification attendant therewith. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 105 USPQ 233.

4. Claims 1, 3, 63, and 65 are rejected under 35 U.S.C. 102(b) as being anticipated by Ando et al. (5,534,120).

Claim 1 is rejected because Ando et al. teach an apparatus for electrolyzing an electrolytic solution, said apparatus comprising:

- (a) a non-barrier electrolytic cell comprising:
 - o (i.) an anode (Fig. 1, numerals 16 and/or 20);
 - o (ii.) a cathode (Fig. 1, numeral 18), said anode and said cathode defining a passage formed therebetween (col. 4, lines 60-65: "flow paths");
 - o (iii.) an inlet port communicating with said passage, said inlet port used to receive a flow of electrolytic solution (Fig. 2, numeral 26); and
 - o (iv.) an outlet port communicating with said passage, said outlet port providing an exit for the flow of electrolytic solution having been electrolyzed (Fig. 2, numerals 28 and/or 30); and

- (b) a current supply for providing an electrical current from said anode to said cathode, wherein said current supply delivers less than about 5 watts of power, wherein the electrical current electrolyzes the flow of electrolytic solution (Fig. 9, numeral 60).

It should be noted that the specific power of the current supply is a method limitation which does nothing to further define the structure in apparatus claims. The apparatus must merely be capable of operating at the specific operating conditions which appears to be the case with the apparatus of Ando et al. The specific power would have been considered a result effective variable by one having ordinary skill in the art. As such, one having ordinary skill would have routinely optimized the pressure of the chamber to obtain the purification attendant therewith. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 105 USPQ 233.

Claims 3 is rejected because Ando et al. teach a fluid movement mechanism (Example 2: "flow rate"),

Claim 63 is rejected because Ando et al. teach an apparatus for electrolyzing an electrolytic solution, said apparatus comprising:

- (a) a non-barrier electrolytic cell comprising:
 - o (i.) an anode (Fig. 1, numerals 16 and/or 20);
 - o (ii.) a cathode (Fig. 1, numeral 18), said anode and said cathode defining a passage formed therebetween, said passage having a distance between said anode and said cathode of less than about 0.6 mm (col. 5, lines 5-10);

- o (iii.) an inlet port communicating with said passage, said inlet port used to receive a flow of electrolytic solution (Fig. 2, numeral 26); and
 - o (iv.) an outlet port communicating with said passage, said outlet port providing an exit for the flow of electrolytic solution having been electrolyzed (Fig. 2, numerals 28 and/or 30); and
- (b) a current supply for providing an electrical current from said anode to said cathode, wherein said current supply delivers less than about 5 watts of power, wherein the electrical current electrolyzes the flow of electrolytic solution (Fig. 9, numeral 60).

It should be noted that the specific power of the current supply is a method limitation which does nothing to further define the structure in apparatus claims. The apparatus must merely be capable of operating at the specific operating conditions which appears to be the case with the apparatus of Ando et al. The specific power would have been considered a result effective variable by one having ordinary skill in the art. As such, one having ordinary skill would have routinely optimized the pressure of the chamber to obtain the purification attendant therewith. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 105 USPQ 233.

Claim 65 is rejected because Ando et al. teach a fluid movement mechanism (Example 2: "flow rate"),

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 32-33, 55, and 60-62 are rejected under 35 U.S.C. 102(e) as anticipated

by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Herrington et al.

(6,261,464 B1).

Herrington et al. teach an apparatus for electrolyzing an electrolytic solution, said apparatus comprising:

- (a) a non-barrier electrolytic cell comprising:
 - o (i.) an anode(col. 5, line 54);
 - o (ii.) a cathode, said anode and said cathode defining a passage formed therebetween (cathode at Fig. 1, numeral 106 and passage is between numeral 106 and anode as outer electrode);
 - o (iii.) an inlet port communicating with said passage, said inlet port used to receive a flow of electrolytic solution (for example Fig. 4, numeral 146); and

- o (iv.) an outlet port communicating with said passage, said outlet port providing an exit for the flow of electrolytic solution having been electrolyzed (for example Fig. 4, numeral 146); and
- (b) a current supply for providing an electrical current from said anode to said cathode, wherein said current supply delivers less than about 5 watts of power, wherein the electrical current electrolyzes the flow of electrolytic solution (Fig. 1, numeral 102).

Herrington et al. fail to specifically teach the anode surface area.

Claim 32 is rejected because the anode surface area claimed by Applicant (less than about 30 cm²) would have been an inherent property in Herrington et al. because Herrington et al. is directed to a portable water disinfection system which is the size of a pen. One of ordinary skill in the art would have recognized an electrode surface area which can fit in a chamber the size of a pen would be less than 30 cm² in size.

Claims 33, 55, and 60-62 are rejected because Herrington et al. teach that the apparatus comprises a body which contains said electrolytic cell and power supply (Fig. 1, numeral 108), a current supply such as a battery or a solar cell (col. 8, lines 1-5); a travel water purification device (*i.e.* "portable"; Abstract); is adapted to remove impurities (Abstract); and is adapted to kill microorganisms (col. 4, lines 18-25).

8. Claims 67-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al. (5,534,120) as applied to claim 63 above, and further in view of Weakly et al. (2002/0157966 A1).

Ando et al. and Weakly et al. are as applied, argued, and disclosed above and incorporated herein, but fail to specifically teach a filter such as activated carbon or resin which can filter out harmless materials.

Weakly et al. teach of a specific filter such as activated carbon (¶ 0049) or resin (¶ 0035) which can filter out arsenic (¶ 0049).

Claims 67-93 are rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified Ando et al. to include the filter material of Weakly et al. because Weakly et al. teach of a specific filter such as activated carbon (¶ 0049) or resin (¶ 0035) which can filter out arsenic (¶ 0049) which would have minimized contaminants for the end user of the liquid, thereby increasing health or subsequent process efficiency.

It should be noted that the specific rate or degree of filtration is a method limitation which does nothing to further define the structure in apparatus claims. The apparatus must merely be capable of operating at the specific operating conditions which appears to be the case with the apparatus of Weakly et al. The specific filtration properties would have been considered a result effective variable by one having ordinary skill in the art. As such, one having ordinary skill would have routinely optimized the pressure of the chamber to obtain the purification attendant therewith. In

re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller,
105 USPQ 233.

9. Claims 34 and 36-54 and 56-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herrington al. (6,261,464) as applied to claims 32 above, and further in view of Weakly et al. (2002/0157966 A1).

Herrington et al. and Weakly et al. are as applied, argued, and disclosed above and incorporated herein, but fail to specifically teach a filter such as activated carbon or resin which can filter out harmless materials.

Weakly et al. teach of a specific filter such as activated carbon (§ 0049) or resin (§ 0035) which can filter out arsenic (§ 0049).

Claims 34, 36-54 and 56-59 are rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified Herrington et al. to include the filter material of Weakly et al. because Weakly et al. teach of a specific filter such as activated carbon (§ 0049) or resin (§ 0035) which can filter out arsenic (§ 0049) which would have minimized contaminants for the end user of the liquid, thereby increasing health or subsequent process efficiency.

It should be noted that the specific rate or degree of filtration is a method limitation which does nothing to further define the structure in apparatus claims. The apparatus must merely be capable of operating at the specific operating conditions which appears to be the case with the apparatus of Weakly et al. The specific filtration

properties would have been considered a result effective variable by one having ordinary skill in the art. As such, one having ordinary skill would have routinely optimized the pressure of the chamber to obtain the purification attendant therewith. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 105 USPQ 233.

10. Claims 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al. (5,534,120) as applied to claim 65 above, and further in view of Herrington et al. (6,261,464).

Ando et al. and Herrington et al. are as applied, argued, and disclosed above and incorporated herein, but fail to specifically teach that the apparatus comprises a body providing containment for said electrolytic cell and said current supply.

Herrington et al. teach that the apparatus comprises a body which contains said electrolytic cell and power supply (Fig. 1, numeral 108).

Claim 64 is rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified Ando et al. to include the body of Herrington et al. because Herrington et al. teach that the apparatus comprises a body which contains said electrolytic cell and power supply (Fig. 1, numeral 108) which would have provided for easy portability of the apparatus (*i.e.* "portable"; Abstract).

11. Claims 4 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herrington et al. (6,261,464), as applied to claims 3 and 34 above.

Herrington et al. are as applied, argued, and disclosed above and incorporated herein, but fail to specifically teach the recirculating of the electrolytic solution.

Claims 4 and 35 are rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have recirculated the electrolytic solution because recycling is an obvious engineering design improvement that comes from efficiency and economic design considerations (*i.e.* it is within routine skill in the art to recycle fluid through a "reactor" to increase yield). Changing economic considerations do not make obvious expedient into unobvious improvement. Ex parte Fuller, 172 USPQ 317.

12. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Ando et al. - Weakly et al. combination, as applied to claims 3 and 34 above.

The Ando et al. - Weakly et al. combination are as applied, argued, and disclosed above and incorporated herein, but fail to specifically teach the recirculating of the electrolytic solution.

Claims 66 is rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have recirculated the electrolytic solution because recycling is an obvious engineering design improvement that comes from efficiency and economic design considerations (*i.e.* it is within routine

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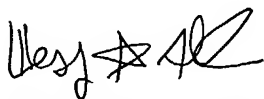
skill in the art to recycle fluid through a "reactor" to increase yield). Changing economic considerations do not make obvious expedient into unobvious improvement. Ex parte Fuller, 172 USPQ 317.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley Nicolas whose telephone number is (571) 272-1247. The examiner can normally be reached on Mon.-Thurs. from 7 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached at (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov> . Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wesley A. Nicolas
Primary Examiner

March 4, 2004